

leads, said cardiac pacing system including:

- Sub
F-1
- (a) an atrial lead having atrial electrodes comprising an atrial tip electrode and an atrial ring electrode electrically coupled thereto;
 - (b) a ventricular lead having ventricular electrodes comprising a ventricular tip electrode and a ventricular ring electrode electrically coupled thereto;
 - (c) pacing means for providing a pacing stimulus to at least one of an atrium or ventricle of a heart, said pacing means electrically coupled to at least one of said atrial lead and said ventricular lead;
 - (d) sensing means for sensing a response evoked by the pacing stimulus, said sensing means electrically coupled to at least one of said atrial lead and said ventricular lead said sensing means including multiple independent blanking switches corresponding to independent electrodes, wherein a signal associated with the evoked response is sensed between at least one of said atrial electrodes and said ventricular electrodes;
 - (e) an indifferent electrode and a can that contains the pacing and sensing means, said indifferent electrode being positioned on the can;
 - (f) afterpotential attenuation means for attenuating afterpotentials which result due to the application of the pacing stimulus to the heart by said cardiac pacing

E1
Cmnd
Sub
F1

system, said afterpotential attenuation means being electrically coupled to said pacing means and having a reduced coupling capacitance of less than 5 microfarads; and

(g) wherein the evoked response is sensed between two of said electrodes.

E2

3(Twice Amended). The cardiac pacing system as recited in claim 1 wherein the signal associated with the evoked response is sensed between the atrial tip electrode and the indifferent electrode.

Sub
II

4(Amended). The cardiac pacing system as recited in claim 2, wherein the signal associated with the evoked response is sensed between the ventricular ring electrode and the ventricular tip electrode.

5(Twice Amended). The cardiac pacing system as recited in claim 1, wherein the signal associated with the evoked response is sensed between the atrial ring electrode and the indifferent electrode.

6(Twice Amended). The cardiac pacing system as recited in claim 1, wherein the signal associated with the evoked response is sensed between the ventricular tip electrode and the indifferent electrode.

7(Twice Amended). The cardiac pacing system as recited in claim 1, wherein the signal associated with the evoked response is sensed between the ventricular ring electrode and the indifferent

*E2
Cont'd*
electrode positioned on a can of the cardiac pacer and electrically coupled to the cardiac pacer.

*Sub
I 1*
8(Twice Amended). The cardiac pacing system as recited in claim 1, wherein the signal associated with the evoked response is sensed between the atrial ring electrode and one of the ventricular electrodes.

9(Twice Amended). The cardiac pacing system as recited in claim 1, wherein the signal associated with the evoked response is sensed between the atrial tip electrode and one of the ventricular electrodes.

10(Twice Amended). The cardiac pacing system as recited in claim 1, wherein the signal associated with the evoked response is sensed between the ventricular ring electrode and the atrial tip electrode.

*Sub
F 2*
11(Twice Amended). The cardiac pacing system as recited in claim 1, further including an electrically conductive housing that contains the pacing and sensing means, wherein the signal associated with the evoked response is sensed between the atrial tip electrode and the electrically conductive housing of the cardiac pacing system.

12(Twice Amended). The cardiac pacing system as recited in claim 1, further including an electrically conductive housing that contains the pacing and sensing means, wherein the signal associated with the evoked response is sensed between the atrial ring electrode and the electrically conductive housing of the

Sub F2 cardiac pacing system.

E3
cancel
Sub
F3
14(Twice Amended). The cardiac pacing system as recited in claim 1, further including an electrically conductive housing that contains the pacing and sensing means, wherein the signal associated with the evoked response is sensed between the ventricular ring electrode and the electrically conductive housing of the cardiac pacing system.

15(Twice Amended). The cardiac pacing system as recited in claim 1, further including an electrically conductive housing that contains the pacing and sensing means, wherein the signal associated with the evoked response is sensed between the ventricular tip electrode and the electrically conductive housing of the cardiac pacing system.

E4
Sub
F4
19. (Three Times Amended) A cardiac pacing system for use with unipolar or bipolar atrial and ventricular pacing and sensing leads, said cardiac pacing system including:

- (a) an atrial lead having atrial electrodes comprising an atrial tip electrode and an atrial ring electrode electrically coupled thereto;
- (b) a ventricular lead having ventricular electrodes comprising a ventricular tip electrode and a ventricular ring electrode electrically coupled thereto;
- (c) a pacing circuit including a pacing charge storage capacitor that provides a pacing stimulus to at least one of an atrium or ventricle of a heart, said pacing circuit

E-1
med

electrically coupled to at least one of said atrial lead and said ventricular lead;

- Sub*
24
- (d) a sensing circuit that senses a response evoked by the pacing stimulus, said sensing circuit electrically coupled to at least one of said atrial lead and said ventricular lead, said sensing circuit including multiple independent blanking switches corresponding to independent electrodes, wherein a signal associated with the evoked response is sensed between at least one of said atrial electrodes and said ventricular electrodes;
 - (e) an indifferent electrode and a can that contains the pacing and sensing means, said indifferent electrode being positioned on the can;
 - (f) coupling capacitors electrically coupled together wherein a capacitance of the capacitors coupled together has a combined reduced capacitance of less than 5 microfarads wherein the combined reduced capacitance of less than 5 microfarads attenuates afterpotentials which result due to the application of the pacing stimulus to the heart by said cardiac pacing system, said capacitors being electrically coupled to said pacing circuit; and
 - (g) wherein the evoked response is sensed between two of said electrodes.

ES Sub
I

21 (Amended). The cardiac pacing system as recited in claim

20 wherein the signal associated with the evoked response is sensed between the atrial tip electrode and the indifferent electrode.

E 5 cont
22 (Amended). The cardiac pacing system as recited in claim 19, wherein the signal associated with the evoked response is sensed between the ventricular ring electrode and the ventricular tip electrode.

Sub I
23 (Amended). The cardiac pacing system as recited in claim 19, wherein the signal associated with the evoked response is sensed between the atrial ring electrode and the indifferent electrode.

24 (Amended). The cardiac pacing system as recited in claim 19, wherein the signal associated with the evoked response is sensed between the ventricular tip electrode and the indifferent electrode.

25 (Amended). The cardiac pacing system as recited in claim 19, wherein the signal associated with the evoked response is sensed between the ventricular ring electrode and the indifferent electrode.

26 (Amended). The cardiac pacing system as recited in claim 19, wherein the signal associated with the evoked response is sensed between the atrial ring electrode and one of the ventricular electrodes.

27 (Amended). The cardiac pacing system as recited in claim 19, wherein the signal associated with the evoked response is

Sub
I
ES
cont'd

sensed between the atrial tip electrode and one of the ventricular electrodes.

28 (Amended). The cardiac pacing system as recited in claim 19, wherein the signal associated with the evoked response is sensed between the ventricular ring electrode and the atrial tip electrode.

Sub
I
S

29 (Amended). The cardiac pacing system as recited in claim 19, further including an electrically conductive housing that contains the pacing circuit and sensing circuit, wherein the signal associated with the evoked response is sensed between the atrial tip electrode and the electrically conductive housing of the cardiac pacing system.

30 (Amended). The cardiac pacing system as recited in claim 19, further including an electrically conductive housing that contains the pacing and sensing means, wherein the signal associated with the evoked response is sensed between the atrial ring electrode and the electrically conductive housing of the cardiac pacing system.

Sub
I
1

31 (Amended). The cardiac pacing system as recited in claim 19, wherein the signal associated with the evoked response is sensed between the atrial ring electrode and ventricular tip electrode.

Sub
I
6

32 (Amended). The cardiac pacing system as recited in claim 19, further including an electrically conductive housing that contains the pacing circuit and sensing circuit, wherein the signal